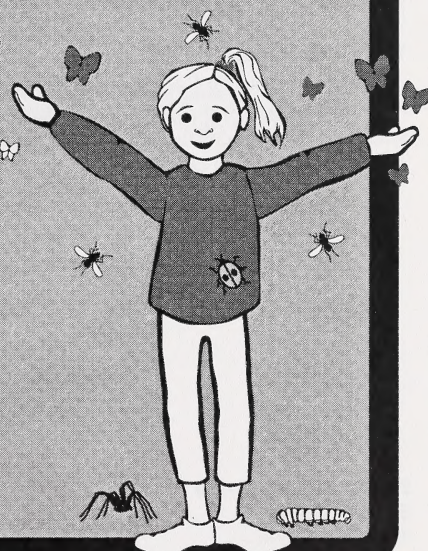




Backyard Bugs



Special Interest Module

Grades 4–6

Teacher's Guide



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Teacher's Guide
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Teachers	✓
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Other	



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Backyard Bugs Teacher's Guide

Focus of Module

This module is designed to introduce the child into the world of bugs, and all of the activities are built around this theme. The module introduces students to bug habitats, classification of bugs, insect body parts, life cycles of insects, and insects' camouflage.

The emphasis of this module is science. The main objective of this module is to have students explore the world of bugs. Students are asked to explore the environment and to collect, organize, and interpret scientific information.

Language Arts, Science, and Fine Arts activities are integrated into this module. Here is a summary of the subject-related skills addressed in this module.

Language Arts

- reading: nonfiction selections, fact boxes, directions
- writing: paragraphs, lists, charts, research presentations, stories, or comic strips
- using a dictionary to define science terms

Science

- doing experiments relating to insect behaviour and habitats
- using standard procedure to write up experiments
- drawing clearly labelled diagrams

Fine Arts

- creating dioramas, posters, collages
- using food to create insect models

Computer Use

All through the module, students have been told that, where possible, they can use a computer and then insert their work in the appropriate place in their Student Book.

Section 1: On the Lookout

Focus: to explore bug habitats

Exploring Time

The results of the students' bug watch will be recorded on a **Bug Watch Chart** and put in their Student Book. There should be five headings, such as the bug's name, location, how many were found, colour, and what the bug was doing. All information should be recorded under each heading.

The number of bugs and the information recorded will depend on what students have found in their bug traps.

Writing Time

Students draw a **Backyard Bug Map**, identifying the places where they have found bugs. The map should include the following:

- the places each bug was found
- the name and drawing of the bugs
- neat labelling
- correctly coloured bugs

Project Time

Project Choice 1: Bug Traps

Subjects: Science/Practical Arts

Purpose: to construct bug-trap equipment

Students design bug traps and place them in three different locations. When they have finished laying the bug traps, they describe **or** draw the bug traps they used in their Student Book.

What to Look For

- short descriptions or drawings of the bug traps

Project Choice 2: Small Soil Insects

Subject: Science

Purpose: to construct equipment to gather insects that live in the soil

In their Student Book, students make a list **or** draw a sketch of the bugs they found in the soil. In this activity, they return the bugs and soil to their natural habitat.

Section 2: Home Sweet Home

Focus: to observe and write about a bug habitat

Reading Time

Students read the fact box entitled "Bug Habitats" and then do a "Match Me and My Habitat" quiz in their Student Book. The correct answers follow:

1. b
2. d
3. e
4. a
5. c

Exploring Time

Students go outside to see what bugs have collected in the different traps.

Writing Time

Students describe one bug they found in their traps and its habitat. Underneath the description, they have been asked to draw a clear diagram of the bug, using a pencil, and to put the name of the bug under the diagram.

They are encouraged to use a computer to write their description and then put the work into their Student Book.

Project Time

Project Choice 1: Make a Bug Home

Subjects: Science/Practical Arts

Purpose: to construct a model to observe bugs in their habitat

Students draw and colour a picture of a bug habitat in their Student Book.

Project Choice 2: Bug-Habit Diorama

Subjects: Science/Art

Purpose: to construct a 3-D bug habitat

Students write a short description of their diorama in their Student Book. A photograph may be included, too.

Section 3: Who's Who?

Focus: to find out what makes a bug an insect

Reading Time

Students read the fact box entitled "What Makes a Bug an Insect?"

Exploring Time

Students use their **Bug Names** chart to sort and classify bugs into insects and non-insects.

Writing Time

Students write down the names of six bugs and then fill in the required information about each one on a chart in their Student Book. They write whether each one is an insect or non-insect in the last column. If they don't know the name of some bugs, they have been asked to draw a picture of them.

Project Time

Project Choice 1: Bug Poster

Subjects: Science and Visual Arts

Purpose: to present information in a poster

Students make a poster to show others what an insect really is, choosing **one** of the following options:

- a diagram of an insect, labelling the characteristics that are common to all insects
- a chart showing bugs that are commonly mistaken for insects
- a drawing and labelled picture of several kinds of insects and non-insects found around their area

Project Choice 2: Tear into Bugs

Subject: Visual Arts

Purpose: to represent bug habitats in the form of a collage

Section 4: Insects Up Close

Focus: to examine insect body parts

Reading Time

Students read the fact box entitled “Insect Body Parts.”

Exploring Time

Students do a close-up drawing of an insect, labelling all the body parts, and then write about **two** specially adapted parts in their Student Book.

Information should include details from the fact box “Insect Body Parts,” such as antennae are used to help the insect smell or wings help the insect search for food.

Project Time

Project Choice 1: 3-D Insect

Subject: Visual Arts

Purpose: to create a 3-D model

Students construct a 3-D model of an insect and its body parts, using a variety of media.

In their Student Book, they briefly describe **or** make a sketch of their insect model. They are also asked to comment on whether there was any part of this project that they found difficult.

Project Choice 2: Bug Food

Subject: Science

Purpose: to experiment, observe, and record information

Students do an experiment looking at how ants eat. They then answer questions about the experiment in their Student Book.

Section 5: Growing Up

Focus: to learn about the life cycles of insects

Reading Time

Students read the fact box called “Metamorphosis” to learn about the life cycle of an insect.

Writing Time

Students complete a well-labelled diagram of an insect’s life cycle, as well as a word study in their Student Book. They can use a dictionary for the word study if they need to look up the meaning of some words.

What to Look For

- clear, precise definitions of the following terms: *metamorphosis*, *larva*, *pupa*, *emerge*, *nymph*
- the correct spelling of the plural form of the words *pupa* and *larva*

Project Time

Project Choice 1: Fruit Butterfly

Subject: Practical Arts

Purpose: to make a model, using fruit

Students describe briefly how they enjoyed making a fruit butterfly and draw a sketch of it in their Student Book.

Project Choice 2: Mosquito Motel

Subject: Science

Purpose: to observe and record an insect’s life cycle

If there are ponds or swamps nearby, students can go on a field trip to study the life of a mosquito. After they have collected some samples, they observe the larvae with a magnifying glass to see how they breathe, how they move, and what they look like.

They will need to observe their mosquitoes for a few days to notice any changes.

They will record how their mosquitoes are developing when they answer questions in Section 9.

Section 6: Hide and Seek

Focus: to find out how insects protect themselves

Reading Time

Students read the fact box entitled "Insect Protection."

Exploring Time

Students observe insects and then complete an **Insect Protection Chart** in their Student Book. There should be detailed information about five insects.

Writing Time

Students make up **two** questions that people might ask them about insects. They can use information found in a dictionary and what they have learned about insect protection to answer these questions. They check their draft questions and answers to ensure that they make sense and are written in complete sentences that start with a capital letter and end with a period or question mark.

Their final draft of two questions and answers will be written in their Student Book.

Project Time

Project Choice 1: Camouflage

Subject: Visual Arts

Purpose: to represent ideas in a drawing

Students draw a picture of insects blending into their surroundings and then write a two-sentence description of their camouflage drawing in their Student Book.

Project Choice 2: A Camouflage Game

Subject: Practical Arts

Purpose: to apply knowledge while playing a game

Students make a camouflage game for others to play. They then answer questions in their Student Book showing what they learned from the game.

Section 7: Social Insects

Focus: to investigate social insects

Reading Time

Students read the fact box entitled "Busy Social Workers" to find out more about social insects.

Writing Time

Students begin a research report on **one** insect of their choice.

Students gather information and make point-form notes about their insect on an **Insect Information** sheet in their Student Book. In the next section, they can use these notes to complete their report.

Project Time

Project Choice 1: Trained Honeybees

Subject: Science

Purpose: to complete an experiment and record observations

Students write an experiment about the social behaviour of honeybees, following the procedure and the format outlined in their Student Book.

Project Choice 2: Ant Village

Subject: Science

Purpose: to construct and observe an insect habitat

Students set up their own ant colony. Then they watch the ant colony for the next few days. They report on how the ant village is developing when they answer questions in the Student Book.

Section 8: Friends or Enemies?

Focus: to find out how insects can help or harm humans

Reading Time

Students read the fact box entitled “Helpful or Harmful?”

Writing Time

Students prepare a final copy of their **Insect Information Report** in their Student Book. The information can be written or presented as an oral report. If they use a computer to prepare their final copy, students will insert the edited final copy.

The report should include the following information under these headings:

- Description of the insect (with labelled diagram or picture)
- Habitat
- Protection
- Food
- Life cycle
- Harmful or Helpful?
- Bibliography (only title and author)

Look for interesting opening and closing sentences.

Project Time

Project Choice 1: Who Am I?

Subject: Science

Purpose: to identify an insect by its description; to determine whether an insect is a friend or an enemy

Students turn to the chart in their Student Book and read the description of the insect, identify it, and then determine whether it is a friend or enemy.

The answers are as follows:

fruit fly	friend
tent caterpillar	enemy
honeybee	friend
mosquito	enemy
Asiatic moth	friend
ladybug	friend

Project Choice 2: Super Bug!

Subjects: Language Arts/Creative Arts

Purpose: to create and describe a super bug

Students apply what they have learned about helpful and harmful insects. They choose one insect and make it into a super hero or villain. They should name and describe the super bug. Then they should draw a picture or write a story or comic strip about the insect. Look for creativity, as well as evidence that the students understood which insects are helpful or harmful.

Section 9: A Place in Nature

Focus: to review all the information learned about insects

Writing Time

Students take extra time, if they need it, to finish the **Insect Information Report**.

Students do a crossword puzzle. The answers are as follows:

Across

1. camouflage
4. metamorphosis
8. abdomen
9. phylum
11. cocoon
12. true
13. habitat
15. insect
16. thorax

Down

2. larva
3. exoskeleton
5. entomologist
6. antennae
7. branch
9. pupa
10. mouth
13. hop
14. six
17. ant

Students complete the **All About Bugs** chart.

Exploring Time

Students organize a scavenger hunt to look for different things in nature. A checklist of things to find is given to each participant. Students put the checklist into their Student Book.

Wrap-up Time

Students collect all materials that will be sent in to the teacher. Then they have an opportunity to play some bug games.



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